Training and Evaluation Outline Report

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Task Number: 05-PLT-5716

Task Title: Perform Power Plant Installation Technical Assistance

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Destruction Notice: None
Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the Fort Leonard Wood, MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	ATP 5-19 (Change 001 09/08/2014 78 Pages)	RISK MANAGEMENT http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf	Yes	No
	EM 385-1-1	Safety and Health Requirements.	Yes	No
	NESC®	National Electrical Safety Code. 2012 Edition	Yes	No
	NETA™	Maintenance Testing Specifications for Electrical Power Distribution Equipment & Systems. 2007	Yes	No
	NFPA 70	National Electrical Code	Yes	No
	NFPA 70E	Standard for Electrical Safety Requirements for Employee Workplaces. 2004	Yes	No
	NTRP 4-04.2.5/TM 3-34.42/AFPAM 32-1020/MCRP 3-17.7F	Construction Project Management (HTTPS://NDLS.NWDC.NAVY.MIL) (https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/tm3_34x42_PH_Navy.pdf)	Yes	No
	TM 3-34.45	ENGINEER PRIME POWER OPERATIONS	Yes	Yes
	TM 5-704	Construction Print Reading in the Field. AFM 85-27.	Yes	No

Conditions: The element is conducting continuous operations, supporting tactical or non-tactical operation, and receives a mission in a Fragmentary Order (FRAGORD) and/or Warning Order (WARNORD) to perform technical assistance for installing a power plant or a backup generator (organic and/or nonorganic). The element has all necessary equipment and personnel to accomplish the mission. Liaison operations have been performed. The power plant site reconnaissance report, the applicable Theater Construction Management System (TCMS) prints, safety Standing Operating Procedures (SOPs), applicable equipment manufacturer's literature, equipment operation and maintenance log books are available.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

Standards: The element provides power plant installation technical assistance, ensuring that the power plant meets the unit's electrical requirements without injuring personnel or damaging equipment or the environment within the time specified in the order.

Note: Leaders are defined as the Commander, Executive Officer, First Sergeant, Operations Sergeant, Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire Required: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare			Execute						Assess
Operational Environment		Training Environment (L/V/C)	% of Leaders Present at Training/Authorized	% of Soldiers Present at	External Eval	% Performance Measures 'GO'	% Critical Performance Measures 'GO'	% Leader Performance Measures 'GO'	Task Assessment
SQD & PLT									
Dynamic (Single Threat)	Night	IAW unit CATS statement.	>=85%	>=80%	Yes	>=91%	All	>=90%	**T**
	Day		75-84%			80-90%		80-89%	**T-**
Static (Single Threat)	Night		65-74%	75-79%	No	65-79%			**P**
	Day		60-64%	60-74%		51-64%	<All	<=79%	**P-**
			<=59%	<=59%		<=50%			**U**

Remarks: Task submitted to SME SSG Carroll on 15 July 2014 for review and suggested changes.

Notes: l required references and technical manuals will be provided by the local command.

Safety Risk: Medium

Task Statements

Cue: None

DANGER

This task should only be performed by qualified personnel who are knowledgeable in the installation, operation, and maintenance of electrical power generation equipment and the associated hazards. Failure to comply may cause permanent injury or death.

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task.

CAUTION

Noise levels in excess of 85 decibels exist within a 50-foot radius of operating equipment. Personnel must wear Army approved hearing protection within a 50-foot radius. Failure to comply may result in permanent hearing loss.

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

Performance Steps and Measures

NOTE: Assess task proficiency using the task evaluation criteria matrix.

NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps.

STEP/MEASURE	GO	NO-GO	N/A
+* 1. The element leader conducts Troop Leading Procedures (TLP).			
+ 2. The element reviews documents and publications for the power plant installation, including power plant site reconnaissance report, current TCMS prints, SOPs, and applicable equipment manufacturer's references.			
+ 3. The element conducts movement to the work site.			
+* 4. The element leader determines the activities that must be accomplished.			
+ a. Develops a Critical Path Method (CPM) for the power plant installation.			
+ b. Assigns work crews and responsibilities for completing the critical activities.			
+ 5. The element develops a work site safety plan.			
+ a. Assigns work site safety Non-Commissioned Officers (NCOs), and ensures they receive any requisite training.			
+ b. Identifies potential project hazards and mitigation measures, to include:			
(1) Mechanical hazards, safety equipment, and protective measures.			
(2) Electrical hazards, safety equipment, and protective measures.			
(3) Chemical hazards, safety equipment, and protective measures.			
(4) Environmental impact of power plant installation and protective measures.			
+ c. Identifies project safety requirements, to include:			
(1) Personal safety clothing and equipment required.			
(2) Hazardous materials handling and storage procedures.			
(3) Safe clearance procedures.			
(4) Fire protection equipment use procedures.			
+ d. Produces a risk assessment matrix, addressing the potential project hazards and safety requirements.			
+ 6. The element provides power plant installation technical assistance.			
+ a. Determines power plant and/or backup generator equipment transporting and handling requirements.			
(1) Identifies transport vehicles support needed.			
(2) Identifies materials handling equipment support requirements.			
(3) Determines packaging, preservation, and deprocessing requirements.			
(4) Calculates route requirements and capabilities for line hauling power plant equipment.			
+ b. Determines power plant and/or backup generator site requirements.			
(1) Verifies the selected site space is sufficient.			
(2) Confirms the site grade meets equipment level requirements.			
(3) Confirms any requisite equipment mounting pads for generator sets and control rooms are constructed to standard.			
(4) Confirms access roads are constructed to standard.			
(5) Confirms that site drainage is sufficient to prevent flooding of the site.			
(6) Confirms that all required berms for the site are constructed to specification.			
+ c. Provides technical assistance for installing individual components of power plant.			
(1) Advises on power plant and/or backup generator grounding system requirements, including methods for improving electrode ground resistance.			
(2) Advises on power plant and/or backup generator external fuel system requirements.			
(3) Advises on power plant and/or backup generator interconnecting cable installation methods.			
(4) Advises on power plant after-installation inspection and checkout requirements.			
(5) Advises on power plant protective devices coordination.			
(6) Advises on power plant equipment protective barrier installation requirements.			
(7) Advises on power plant and/or backup generator safety signs and marking requirements.			
+ 7. The element prepares an After Action Report (AAR).			
+* 8. The element leader supervises the power plant installation technical support project.			
+ a. Provides technical expertise and assistance.			
+ b. Updates CPM.			
+ c. Submits status reports and AAR to higher Headquarters (HQ) In Accordance With (IAW) unit SOP.			

TASK PERFORMANCE / EVALUATION SUMMARY BLOCK							
ITERATION	1	2	3	4	5	M	TOTAL
TOTAL PERFORMANCE MEASURES EVALUATED							
TOTAL PERFORMANCE MEASURES GO							
TRAINING STATUS GO/NO-GO							

ITERATION: **1 2 3 4 5 M**

COMMANDER/LEADER ASSESSMENT: **T P U**

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-BN-5700	Conduct Prime Power Support Missions	05 - Engineers (Collective)	Approved

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-CO-5750	Provide Prime Power Support	05 - Engineers (Collective)	Approved
	05-PLT-5717	Perform Power Plant Distribution System Design Technical Assistance	05 - Engineers (Collective)	Approved
1.	71-CO-5100	Conduct Troop Leading Procedures for Companies	71 - Combined Arms (Collective)	Approved
7.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved
8.	05-CO-5001	Perform Project Management	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8502	OPFOR Execute an Ambush	Approved
71-CO-8504	OPFOR Execute a Reconnaissance Attack	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-204-1117	Inspect Hot-Line Equipment	052 - Engineer (Individual)	Approved
	052-204-2207	Conduct a Safety Briefing	052 - Engineer (Individual)	Approved
	052-204-2208	Conduct a Safety Inspection	052 - Engineer (Individual)	Approved
	052-204-2211	Develop a Bill of Materials (BOM) List	052 - Engineer (Individual)	Approved
	052-204-2213	Locate an Underground Cable and/or Fault	052 - Engineer (Individual)	Approved
	052-204-2301	Perform Switching, Blocking and Tagging Procedures	052 - Engineer (Individual)	Approved
	052-206-3101	Produce an Electrical Schematic	052 - Engineer (Individual)	Approved
	052-207-2126	Produce an Electronic Schematic	052 - Engineer (Individual)	Approved
	052-210-1102	Develop a Power Plant Safety SOP	052 - Engineer (Individual)	Approved
	052-210-1106	Perform Quality Assurance (QA) Quality Control (QC)	052 - Engineer (Individual)	Approved
	052-210-1117	Design a Temporary Medium Voltage Distribution System	052 - Engineer (Individual)	Approved
	052-210-1144	Manage Disaster Relief Operations	052 - Engineer (Individual)	Approved
	052-210-1218	Manage Soil Sample Representative Procedures	052 - Engineer (Individual)	Approved
	052-239-3001	Prepare a Bill of Materials	052 - Engineer (Individual)	Approved
	052-239-3030	Read Construction Prints	052 - Engineer (Individual)	Approved
	052-244-2144	Read a Schematic	052 - Engineer (Individual)	Approved
	052-244-3101	Check Power Plant to Load Compatibility	052 - Engineer (Individual)	Approved
	052-244-4209	Perform Quality Assurance (QA) and/or Quality Control (QC) Duties	052 - Engineer (Individual)	Approved
	052-244-4211	Conduct Contract Officer's Technical Representative (COTR) Operations	052 - Engineer (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.4	Supply Mobile Electric Power

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
No equipment specified		

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.